winter 2016 edition

the GreenClan newsletter

KICKAPOO ENVIRONMENTAL OFFICE

This issue

The mission of the Kickapoo Environmental Office is to promote the safety, health, and welfare of the Kickapoo Tribe in Kansas and improve the quality of life on the Kickapoo Nation by safeguarding the environment and natural resources.

CALENDAR

Mar: Crystal (3rd) and Eric's (16th) B-day

Apr 5: KNHC Health Fair

Apr 22: Earth Day Events

Director's Update

By Eric Sheets, KEO Director

The Kickapoo Environmental Office (KEO) has made some significant strides over the last three months since our last Green Clan release.

Namely, KEO has hired a few new folks with valuable skill sets that will serve both the Office and the Kickapoo Tribe in Kansas (KTIK) well. Mr. Melvin Lewis II (Prairie Band Potowotomie) was hired in mid-October to fill a vacancy in our *Brownfields/Tribal Response Coordinator* position. See his article on page five where he introduces himself and his program.

Ms. Britini Bauer joined KEO in November to fill a vacancy in our *Water Quality Monitoring Specialist* position. Ms. Bauer comes to us with a B.S. in environmental studies, experience interning with both the US EPA and the Kansas Water Office, and she is our new resident GIS mapping expert. (Our mapping services are available to all Tribal departments, so if you need a tailored map, give her a ring.) Look up Ms. Bauer's introductory article on page four where she discusses what her new position entails.

Mr. Kolt Bevan also joined KEO in November as our new *Wetlands Program Manager*. Mr. Bevan's training (B.S. Geology) makes him well-suited for his upcoming duties that will fully utilize his education in soils, environmental geology, and hydrology. Look for his introductory article on page six where he'll discuss the tasks that lie ahead for his program.

In other happenings around the office, KEO recently submitted a competitive Clean Water Act Sec. 319 grant proposal in the amount of $100,000 to help address significant streambank erosion concerns across the Reservation. Look up Environmental Specialist, Jim Rietz's article on page two discussing the hazards posed by streambank erosion and its interplay with water quality and habitat health.

As we move into spring time, KEO looks forward a number of exciting goings-on. Both Ms. Bauer and Mr. Bevan will begin sampling under their respective programs. Mr. Rietz will pick back up with his wastewater lagoon discharging and sampling, as well as coordinating a streambank stabilization project or two. Christopher “Sonny” Fee will continue his wet deposition sampling at the air quality monitoring site in Powhatten. This will provide important air data that KEO will utilize in seeking further funding to address air quality concerns on the reservation.

River and Stream Bank Erosion and Its Effect on Water Quality

By Jim Reitz, Environmental Specialist

According to the Kansas Water Office, it is evident that a substantial source of sediment in streams and rivers, is generated from stream channel erosion and edge-of-field gullies.

Streambank erosion is a natural process that contributes a large portion of sediment into the river, but acceleration of this natural process leads to an unbalanced sediment supply, stream channel instability, **land loss**, habitat loss and other undesirable effects. Many land use activities can affect and lead to accelerated bank erosion (EPA, 2008). In most Kansas watersheds, this natural process has been accelerated due to changes in land cover and the modification of stream channels to accommodate agricultural, urban and other land uses.

Excessive sediment delivery to a river results in the rapid decline of its water body's storage capacity, as it is replaced by silt. Sediment can also have a negative impact on aquatic life, increase water treatment costs, and negatively impact water recreational activities. Sediment also can contribute to other quality problems including eutrophication (nutrient enrichment for algae blooms).

Sediment can transport contaminants that are attached to the soil particles. Because sedimentation is so prevalent in the Delaware Watershed and is closely related to multiple water quality impairments, controlling sediment can result in major water quality improvements.

How can we control stream bank erosion?

Stream bank restoration and stabilization efforts can significantly reduce sediment load on a river, improve aquatic habitat, and improve water quality. This strategy is not new to the Kickapoo Tribe. With the help of the Delaware WRAPS organization and other agencies, the Kickapoo Tribe has made significant improvements in the stabilization of the stream banks on the main stem of the Delaware River.

The first project to address streambank erosion was completed in 2011 at the powwow grounds. Since then, several other restoration and stabilization projects have taken place. In 2013, the outside bends on the Delaware River at road 100 on the Jackson County line were stabilized to decrease the bank erosion. And in 2014, two more bank erosion sites were stabilized, one south of the K20 Bridge and one north of Road 100.

The sixth Streambank Project will begin this spring (2016), on the east bank of the Delaware, 3/4 mile south of the Trading Post. When added together, more than 3700 linear feet of stream bank well have been restored and stabilized when this sixth project is completed.

Techniques used to stabilize streambanks

Bank re-shaping is a manipulative form of streambank stabilization which requires the use of heavy earth-moving equipment. Steep, vertical banks are physically reshaped to a gentler slope which allows native trees, shrubs and grasses to be re-established.

Stone toe protection involves the placement of large rock at the base of the streambank in a line parallel to the bank. This provides protection of the "toe" of the bank against undercutting by stream currents and reduces slumping. It also stabilizes the lower portion of the bank to allow vegetation (usually willows) to become established. Stone toe protection is typically installed at the base of re-shaped streambanks and used in conjunction with rock structures such as rock vanes or weirs.

Rock vanes and weirs are re-directive, in-stream rock structures constructed within the river channel and "keyed" into the streambank for stability. The structures are designed to become submerged when stream flows are high, and work by diverting the main force of stream currents away from the bank.

References

1. US Environmental Protection Agency. (2008). Watershed Assessment of River Stability & Sediment Supply (WARSSS) website: www.epa.gov/warsss/sedsource/streamero.htm
2. Delaware River Watershed Restoration and Protection Strategy. Nine-Element Plan Supplement. (2011).
3. Kansas Water Office. Public Water Supply Information, Delaware River Watershed. (2010).

Recycle to Keep Grandmother Clean

For kids (and adults!), color in the image and submit it to the Kickapoo Environmental Office. We will choose a winner to include, along with a write-up of the artist, in the next edition of the Green Clan.

Kickapoo Environmental Office
CWA § 106 Water Quality Program
Britini Bauer
785-486-2601 ext. 7
britini.bauer@ktik-nsn.gov

Hello, my name is Britini Bauer and I am the new Water Quality Monitoring Specialist for the Kickapoo Tribe, as of November 2015. I received Bachelor's of Science degree in Environmental Studies from the University of Kansas in December, 2013. I am excited to be a part of this organization and feel honored to be able to share my passion for protecting human health and the environment with the Kickapoo Tribe.

My main job at the Kickapoo Environmental Office (KEO) is to oversee the Clean Water Act (CWA) 106 Program. The CWA was enacted by Congress in 1972 and establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. and regulating quality standards for surface waters. Under Section 106 of the CWA, the U.S. Environmental Protection Agency (USEPA) provides assistance to tribes to establish and implement ongoing water pollution control programs. The goal of the Water Quality Program at KEO is to gather information to assess ambient water quality and to evaluate any existing environmental problems that may impact aquatic resources vital to the Kickapoo Tribe. The Water Quality Program is also responsible for measuring the success of management activities intended to improve, maintain, and prevent current or future degradation of water resources.

One of my main responsibilities under the 106 Program is to monitor the streams, wells, and ponds throughout and around the reservation. The monitoring site selections are based on different factors including the drinking water, access, safety, ecological and economic value, and cultural importance to the Tribe. When testing the streams, wells, and ponds, we analyze their chemical, physical, and bacteriological parameters. If there is a significant pollution concern identified, KEO will then find ways to remediate the source to prevent it from continuing to enter the waterway.

Another one of my responsibilities is to conduct watershed assessments. The Kickapoo watershed includes the waters of the Kickapoo Nation and the surrounding waters impacting the water resources of the Nation. These assessments not only tell us about the current health of a stream, but the long term effects the water quality has had on the ecosystem. When conducting these assessments, we look at the chemical, physical, and bacteriological parameters, as well as their biological presence in the stream. The biological presence consist of a macroinvertebrate analysis and an overall habitat assessment. This year I am also incorporating periphyton (algae) surveys because they can be used as an early warning sign for impeding damage/recovery in a stream due to their reaction to excess nutrients in the waterway, such as nitrogen and phosphorus.

Water is essential to all life. Monitoring this natural resource is key to retaining good water quality and preventing the development of impaired water quality. My goal moving forward is to do my best to create a sustainable future for the waters of the Kickapoo Nation and to identify any threats that may put these waters at risk of becoming impaired. I am very happy to be here and I look forward to meeting the community in the coming months through various outreach programs the KEO hosts.

Kickapoo Environmental Office
CERCLA § 128(a) Brownfields Program
Melvin (Nanoki) Lewis II
785-486-2601 ext. 6
melvin.lewis@ktik-nsn.gov

Bozhoo nikonek mno gishget, Greetings friends, and good day. My name is Melvin “Nanoki” Lewis II. I was hired in October 2015 as the Kickapoo Environmental Office's (KEO) Brownfields/Tribal Response Program Coordinator. This has been an exciting endeavor to take on such a challenge, and I am very honored that I could work for the Kickapoo Tribe in Kansas (KTIK) to help maintain, preserve and to help protect the lands for the people's way of life.
This is a quick look at KEO Brownfields/Tribal Response Program. First, let’s take a look at what a brownfield is considered. U.S. EPA definition: A “brownfield” is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Our goals at the KEO are fivefold: (1) Continue to raise awareness of brownfields and other related environmental issues within the Kickapoo community; (2) Identify and increase the tribal capacity to address brownfields and other environmental cleanup of hazardous substances, petroleum, controlled substances and other pollutants in order to demonstrate good stewardship of the Tribe’s environmental resources; (3) Decrease risks to the health and welfare of the KTIK; (4) Build response experience of the tribal staff to address accidental release; and (5) Develop strategies for preventive measures.

We achieve this through the following tasks:
- Timely survey and inventory of brownfield sites in the state or tribe-related lands;
- Oversight and enforcement;
- Mechanisms and resources to provide meaningful opportunities for public participation; and
- Mechanisms for approval of a cleanup plan and verification and certification that cleanup is complete.

In the past, this program has had much success in identifying these brownfield areas. We currently have 16 sites on our inventory, and of these, 14 have undergone a “Phase I” site assessment, with two of these going further to a “Phase II” site assessment. These assessments are to help identify whether or not the land should be considered a brownfields; this allows us to assist in the cleanup process to be reused.

Looking towards the future we can expect many more achievements, and with the community’s help, we can overcome many hurdles we will face such as, illegal dumping and the need for tighter code enforcements and penalties. This program looks forward to sharing ideas we have with the community in many ways. To this end, we would like to extend an opportunity to the people of this community to come forward and share ideas or any comments to help make this a better program. Together, we can all can learn and work to keep our lands clean and healthy.

Kickapoo Environmental Office
CWA Wetlands Program
Kolt Bevan
785-486-2601 ext. 4
kolt.bevan@ktik-nsn.gov

What is a wetland?
Wetlands are areas where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods of time during the year. Marshes and ponds, the edge of a lake or ocean, the delta at the mouth of a river, low-lying areas that frequently flood—all of these are wetlands.

Why are wetlands important?
Wetlands serve many ecological functions and environmental benefits including water purification, flood protection, and stream bank stabilization. They also provide a vital habitat for fish and other wildlife.

Water Purification
Wetlands act as a natural filtration system. They trap sediments and retain excess pollutants such as heavy metals. The pollutants are attached to the sediment, and because of the slow velocity of wetland waters the sediment settles to the bottom and is buried. Wetlands also retain nutrients that cause harmful algal blooms. By ridding the water of excess nutrients, pollutants, and chemicals, wetlands keep these harmful substances from reaching the Tribe's drinking water system

Flood Protection
Wetlands hold excess runoff after a storm and then release it slowly. Wetland soil acts as a sponge and can hold much more water than other soil types. Wetlands drastically reduce the potential for a major flood in the area.

Stream Bank Stabilization
Wetlands that occur along banks of rivers help protect the shoreline soils from the erosion of the current. The plants act as a buffer by reducing the water's energy and provide stability with their root systems. With the increased stability there will be less farmland lost to the erosion caused by a stream.

Habitat
Wetlands are some of the most productive habitats on the planet. Many species of birds, fish, mammals, reptiles and amphibians rely on wetland habitats for breeding foraging and cover. There are also many species that live in other habitats that use wetlands for migration or reproduction. Every species of duck, goose and swan in North America depends on wetland habitat throughout their life cycle. This gives wetlands a great recreational importance as well. Wetlands should be of great interest to anyone interested in the hunting of waterfowl.
There are 17 locations that we've determined to be priority wetland areas on the reservation. And because of all the benefits listed above, it is necessary to protect, enhance, and restore these wetlands.

Kickacomix

by Crystal Wabnum

How Do I Know if I Have Radon?

Radon is a naturally occurring radioactive gas released in rock, soil and water that can build up to dangerous levels inside any home—new and old homes and well sealed and drafty homes. Radon is odorless and invisible and the only way to know if your home has a problem is to test for it. You can call your state radon office to find qualified radon mitigators in your area. Also local companies with radon mitigators are in the phone book or online. The cost to reduce Radon depends on how your home was built and how you use it. Breathing radon can increase your risk of lung cancer. Radon is the number one case of lung cancer among people who do not smoke. EPA estimates that radon causes more than 20,000 deaths from lung cancer each year in the u.s. if you smoke and your your risk of lung cancer can can Order a radon test kit by www.sosradon.org. or you Environmental of Hiawatha. 1800-NO-RADON.

home has high radon level, increase even more. You calling 1800 -767-7236, at can contact S.W.A.T. Radon Abatement systems

Do you have ideas or suggestions for how we can improve our Green Clan newsletter? Let us know!

Kickapoo Environmental Office
1107 Goldfinch Road
Horton, Kansas 66439
785.486.2601
ktik-nsn.gov/KickapooEnvironmentalProtection.htm
"Working together for a better community"

KICKAPOO ENVIRONMENTAL OFFICE

KIKAAPOA - He who moves about
KICKAPOO TRIBE IN KANSAS